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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/501,876	02/10/2000	Eddie D. Sowle	163.1173US11	4490

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EXAMINER

YU, GINA C

ART UNIT	PAPER NUMBER
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1617

DATE MAILED: 10/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/501,876	Applicant(s) SOWLE ET AL.	
	Examiner Gina C. Yu	Art Unit 1617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 78,79,82,98 and 99 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 78,79,82,98 and 99 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this^u application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 5, 2006 has been entered.

Claim Objections

Claims 98 and 99 are objected to because of the following informalities: In claims 98 and 99, line 3, the recitation "at after" appears to be a typographical error. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 78, 79, 82, 98, and 99 are rejected under 35 U.S.C. 103(a) as obvious over Salvato (Environmental Engineering and Sanitation, 1992) in view of Kitko (US 4248827), Gladfelter et al. (US 5358653), and Choy et al. (US 5851421).

Salvato teaches that chemical disinfectants have been used to disinfect and sanitize ware equipment and utensils, including cups and glasses. The reference teaches using hypochlorite solution, and replacing the solution when the concentration falls to 50 mg/l. See p. 990. The reference teaches that chemical sanitizers are not

effective on dishes or utensils that are not properly cleansed, which renders the removal of soil and cleansing steps before the sanitizing step obvious. The reference also teaches that detergent should be suitable for the water hardness and pH for proper cleansing. The reference teaches using the equivalent of a three-compartment sink in order to rinse between the washing and sanitizing steps and to remove organic matter from the ware. The reference also teaches that the type of dishwashing method depends on the number of dishes or pieces to be washed per hour, the money available, hot water storage and heating facilities, and individual preference, thus the specific method steps of washing is not viewed critical. See p. 991. Using cyanuric acid at 100 mg/L for minimum of 1 minute or hypochlorite solution (200 mg/L) is taught. pp. 990, 991. The reference also illustrates that glasswares are hand-washed in a three-compartment sink and air-dried. See p. 992-3.

While Salvato does not specifically teach the initial temperature of 80 °F as recited in the present claim, it has been held that differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." See In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). In this case, Salvato generally teaches to replace hypochlorite solution when the temperature drops below 75°F, which indicates that the initial temperature is higher than 75°F. Immersing the wares in a clean solution containing iodide bleach agent at a temperature of 75-120°F,

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and for a solution having a quaternary ammonium compound disinfectants, water temperature should not be less than 75°F. Given these conditions, a skilled artisan would have discovered the optimum initial temperature of water for the chlorine bleaching by routine experimentations.

While Salvato teaches the method steps of ware-washing and sanitization in general, the reference fails to teach using color indicator to monitor the hypochlorite activity, as required by the present claims. However, the reference suggests that maintaining the proper strength of the sanitizer is necessary but difficult to achieve, which would have motivated a skilled artisan to look for way to solve this problem. See p. 991, 3rd full par.

Kitko teaches that a hypochlorite agent that provides transitory visual signal to indicate the activity of the sanitizing agent is well known in chlorine sanitizer art. See col. 2, lines 5-20. The dye agents are dispensed into the toilet flush water, wherein the dye is oxidized from a colored state to a colorless state within 5 seconds to 10 minutes after contact with the hypochlorite. See col. 1, line 57 – col. 2, line 20. The reference teaches that one of the objectives of the invention to give visual signal to the consumer when to replenish the sanitizing agent by a visual color agent. See col. 1, line 67 – col. 2, line 2. Sodium dichloroisocyanurate dihydrate of instant claims is among the sanitizing hypochlorite agents for the invention. See col. 2, lines 21 – 49; instant claim 82. The reference also teaches that the amount of dye dispensed to the toilet will depend on the color intensity desired, the amount of sanitizing agent dispensed into the toilet with the dye, and on the quickness with which it is desired to have the color

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disappear. See col. 3, lines 38 –42. The reference further teaches that the dyes which are suitable for use in the method of the prior art invention are those which are oxidized by the sanitizing agent to a colorless state within a period of 5 seconds to 10 minutes from the time they come in to contact with the sanitizing agent during the flushing of the toilet. See col. 3, lines 53-58. The reference teaches that 2-30 ppm (2-30 mg/L) of chlorine amount of hypochlorite-providing compound sufficient to provide from about 2 to about 30 ppm. See col. 2, lines 55- 60. The reference also illustrate the testing of dyes for the time interval to change its color to colorless stage at catalyzed and uncatalyzed chlorine level of 5 ppm, at pH 6 and 9. See col. 3, line 60 – col. 4, line 58; instant claims 98 and 99. FD&C dyes, such as FD&C no. 3, are tested. See instant claim 98 and 99. Since the same type of dyes is used in the prior art and the present invention, it is viewed obvious that the particle size of the dyes is also same. The reference teaches that dyes provide the color change within a period of from about 5 seconds to 10 minutes. While the reference teaches that the color change occurs in 5 seconds to 10 minutes, the reference also teaches that the amount of dyes to be used depend on the intensity of the color, and the quickness with which it is desired to have the color disappear, while also suggesting that wide variety of dyes can be used. See col. 3, lines 34 – 52.

Kitko fails to teach the 3-18 hour time limitation of instant claims 79 and 99. The reference also fails to teach encapsulating hypochlorite as required by instant claim 82.

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Gladfelter teaches a chlorinated rinse aid concentrate suitable for dispensing and aqueous rinse concentrate and to methods of rinsing with simultaneous stain removal or sanitization. See col. 3, lines 37 – 41.

Examples disclose the preparation of encapsulated active chlorine compound comprising sodium dichloroisocyanurate dihydrate and sodium chloride. See instant claim 82. Gladfelter also teaches “the encapsulated chlorine sources, in combination with a polyalkylene oxide type rinse aid surfactants of the invention are stable during manufacture, storage, transportation, and use.” See col. 4, lines 6-11. Thus, a skilled artisan would have found a motivation to use encapsulated sodium dichloroisocyanurate dihydrate because it is said to be more stable.

The encapsulated chlorine source of Gladfelter comprises the core of active chlorine with an inorganic intermediate coating that comprises filler. See col. 4, line 60 – col. 7, line 35. The reference teaches the method of using the invention, which include introducing the aid into potable water in rinse cycles at relatively neutral pH, wherein the concentration of the active chlorine is about 3 to 50 ppm (3-50 mg/L). See col. 2, lines 29 – 49. The reference also teaches using higher chlorine concentration for more effective sanitization. The reference further provides that the concentration required may vary depending on the temperature of the water. See col. 12, line 50 – col. 13, line 7. Since layers of coating encapsulate sodium dichloroisocyanurate dihydrate, it is viewed obvious that the release of the chlorine source is slow and time-controlled. See instant claims 79 and 99.

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The combined references fail to teach using the hypochlorite composition with dye indicator to wash wares.

Choy et al. teach that thickened hypochlorite solutions have been used in disinfecting hard surfaces including toilet bowls, while also disclosing a dishwashing compositions comprising hypochlorite as a prior art. See col. 1, line 52 – col. 2, line 3. Thus, examiner takes the position that a skilled artisan in disinfectant and sanitizer art would have considered Salvato, Keiko, and Gladfelter as analogous arts.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of Salvato by using the hypochlorite disinfectant composition having dye-color indicator because 1) Salvato teaches to maintain the sanitizer at proper strength and replenish sanitizer when necessary; 2) Kitko teaches dye color-indicator that allows consumers to monitor the activity of hypochlorite to sanitize toilet sink and how to manipulate the time interval of the color; and 3) Gladfelter teaches encapsulated sodium dichloroisocyanurate dihydrate are stable; and 4) Choy teaches that it is well known in the art that hypochlorite is used to disinfect and sanitize both ware washing and toilet bowl.

Given the teaching of Salvato and Kitko as to the concentration of the required hypochlorite to effectively sanitize the wares and how to formulate the visual indicator using dye and hypochlorite, the skilled artisan would have reasonably expected to successfully sanitize dishware with the aid of the visual signal of the hypochlorite activity of the sanitizer.

While the combined references do not explicitly teach replenishing the bleach composition within 3-16 hours as recited in the present claims, it is viewed that the time limitation is obvious because the references teach that the time of bleach action depends on the numerous parameters such as hypochlorite concentration, amount of dye, intensity of color, whether hypochlorite is encapsulated, etc, that are to be manipulated by a skilled artisan. Examiner views that given the collective teachings of the references, one of ordinary skill in the art would have discovered, by routine experimentations, the optimum ratio of chlorine to dye required to produce the color-to-colorless signal within a desired time frame.

Response to Arguments

Applicant's arguments filed September 5, 2006 have been fully considered but they are moot in view of new grounds of rejection in part.

Conclusion

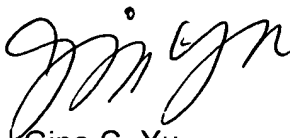
No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gina C. Yu whose telephone number is 571-272-8605. The examiner can normally be reached on Monday through Friday, from 8:00AM until 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreeni Padmanabhan can be reached on 571-272-0629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

 9/30/06
Gina C. Yu
Patent Examiner